UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,177	09/28/2001	Dallas J. Bergh	01RE099 ALBR:0099	5935

7590 01/04/2007

Alexander M. Gerasimow
Allen-Bradley Company, LLC
1201 South Second Street
Milwaukee, WI 53204-2496

EXAMINER	
NGUYEN, DANNY	
ART UNIT	**PAPER NUMBER**
2836	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
2 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/967,177
Filing Date: September 28, 2001
Appellant(s): BERGH ET AL.

L. Lee Eubanks IV
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 09/26/2006 appealing from the Office action mailed 03/22/2006.

1. **Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

2. **Related Appeals and Interferences**

There are no related appeals or interferences related to this appeal.

3. **Status of Claims**

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-20, 23-28, 34-38.

Claims 29-33 are allowed.

Claims 21, 22 are objected to as being dependent upon a rejected base claim, but would be allowable if written in independent form including all of the limitations of the base claim and any intervening claims.

4. **Status of Amendments**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

5. **Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

6. **Grounds of Rejection To Be Reviewed On Appeal**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

The grounds of rejection of claims 21, 22 and 29-33 have been withdrawn.

7. **Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

8. **Evidence Relied Upon**

4,159,501	White	06-1979
6,522,033 B1	Nevo	03-2003
5,864,455	Gernhardt et al	01-1999

9. **Grounds of Rejection**

The following ground (s) of rejection are applicable to the appealed claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-20, 23-28, 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over White (USPN 4,159,501) in view of Nevo (USPN 6,522,033).

Regarding claims 1, 2, 9, 10, 34, 35, 36, White discloses control circuit (10) for an electrical relay (e.g. see fig. 1), the circuit comprises a relay operator (110) to control energization of the relay operator; and a leakage current suppression circuit (e.g. resistor 125, resistor 122, and a comparator of circuit 32) configured to be coupled electrically in parallel with the relay (110) to conduct leakage current leaking into the control circuit (10) to energize the relay operator when a control signal current level is above a leakage current threshold, and to de-energize the relay operator when the control signal level is below a leakage current threshold (col. 4, lines 44-50, col. 7, lines

3-45). White does not disclose a solid-state switch as claimed. However, providing a solid-state switch, which is coupled to a relay, is well known in the art. Nevo discloses a protection circuit comprise a leakage current detector (21) is coupled in parallel with a solid-state switch (28) which is connected in series with the relay (K). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the leakage current detector of White to incorporate the solid state switch as disclosed by Nevo because the solid state switch are cheaper, easily integrated, more reliable and has better performance.

Regarding claims 3, 5, 6, 37, White discloses a signal conditioning circuit (104 and 106) (col. 7, lines 63-68).

Regarding claim 4, White discloses a rectifier circuit (40) for converting AC control signal (18) to DC control signals (col. 5, lines 30-32).

Regarding claims 7, 8, 15, 16, 38, White discloses a visual indicator (116).

Regarding claims 11, 12, 17, 18, White discloses control circuit (10) for an electrical relay (e.g. see fig. 1) comprises a rectifier circuit (40) for converting AC control signal (18) to DC control signals (col. 5, lines 30-32), a DC bus (72 and 74) for receiving the DC signal, a control signal condition circuit coupled to the DC bus for conditioning the DC signal (104 and 106) (col. 7, lines 63-68), a leakage current suppression circuit (e.g. 122, 126, and a comparator of circuit 108) configured to be coupled electrically in parallel with the relay (110), the leakage circuit suppression circuit being operative to conduct leakage current leaking into the control circuit (10) to place the switch in a conducting state and thereby to energize the relay operator when a control signal

current level is above a leakage current threshold, and to de-energize the relay operator when the control signal level is below a leakage current threshold (col. 4, lines 44-50, col. 7, lines 3-45). White does not disclose a solid-state switch as claimed. However, providing a solid-state switch, which is coupled to a relay, is well known in the art. Nevo discloses a protection circuit comprise a leakage current detector (21) is coupled in parallel with a solid-state switch (28) which is connected in series with the relay (K). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the leakage current detector of White to incorporate the solid state switch as disclosed by Nevo because the solid state switch are cheaper, easily integrated, more reliable and has better performance.

Regarding claims 13, 14, White discloses a signal conditioning circuit (104 and 106) (col. 7, lines 63-68).

Regarding claims 19, 20, 27, 28, White discloses a control circuit for an electrical relay (fig. 1), the circuit comprises a relay (110), a leakage current suppression circuit (e.g. 122, 125, and a comparator of circuit 32) configured to be coupled electrically in parallel with the relay, the leakage circuit suppression circuit being operative to conduct leakage current leaking into the control circuit (10) to energize the relay operator when a control signal current level is above a leakage current threshold, and to de-energize the relay operator when the control signal level is below a leakage current threshold (col. 4, lines 44-50, col. 7, lines 3-45). White does not disclose a solid-state switch as claimed. However, providing a solid-state switch, which is coupled to a relay, is well known in the art. Nevo discloses a protection circuit comprise a leakage current detector (21) is

coupled in parallel with a solid-state switch (28) which is connected in series with the relay (K). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the leakage current detector of White to incorporate the solid state switch as disclosed by Nevo because the solid state switch are cheaper, easily integrated, more reliable and has better performance.

Regarding claim 23, White discloses a rectifier circuit (40) for converting AC control signal (18) to DC control signals (col. 5, lines 30-32).

Regarding claims 24, 25, 26, White discloses a signal conditioning circuit (104 and 106) (col. 7, lines 63-68), and a visual indicator (116).

10. **Response to Arguments**

A. **Ground of Rejection No. 1**

Regarding to independent claims 1, 11, 19, and 34, appellant stated the term "input leakage current" refer to this unintentional current entering the control circuit, and circuitry that can suppress leakage current in relay circuit; appellant also stated that White and Nevo disclose the detection and discontinuation of an output leakage current from the apparatus. Thus both White and Nevo fail to teach a leakage current suppression circuit configured to... conduct leakage current into the control circuit. Examiner respectfully does not agree with appellant's arguments. White does disclose a system (12 shown in figure 1) comprises a control circuit (10) which, includes a leakage current suppression circuit (resistor 125, 126, and comparator 120 of circuit 108) configured to ...conduct leakage current into the control circuit (10) to energize the relay

(110) when the leakage current flows into the control circuit 10 detected (col. 3, lines 7-13, col. 6, lines 46-51, col. 7, lines 3-45).

B. **Ground of Rejection No. 2**

Regarding to claims 29-33, appellant's arguments with respect to claims 29-33 have been fully considered and found persuasive. Therefore, the previous rejections of claims 29-33 are withdrawn.

C. **Ground of Rejection No 3**

Regarding claims 21, and 22, appellant's arguments with respect to claims 21 and 22 have been fully considered and found persuasive. Therefore, the previous rejections of claims 21 and 22 are withdrawn.

11. **Evidence of Appendix**

There is no related evidence.

12. **Related Proceedings Appendix**

There are no related Proceedings.

Conferees

Brian Sircus

David Blum

Danny Nguyen Danny Nguyen